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**United States Patent** [19]

Bales et al.

[11] **Patent Number:** 6,024,708[45] **Date of Patent:** \*Feb. 15, 2000[54] **RADIAL JAW BIOPSY FORCEPS**

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[\*] **Notice:** This patent is subject to a terminal disclaimer.

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**Related U.S. Application Data**

[63] Continuation of application No. 08/458,215, Jun. 2, 1995, Pat. No. 5,666,965, which is a continuation of application No. 07/837,046, Feb. 18, 1992, Pat. No. 5,507,296, which is a continuation of application No. 07/521,766, May 10, 1990, Pat. No. 5,133,727.

[51] **Int. Cl.<sup>7</sup>** ..... A61B 17/28; A61B 10/00

[52] **U.S. Cl.** ..... 600/564

[58] **Field of Search** ..... 600/562-568;  
606/167-171, 205-210

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[57] **ABSTRACT**

A biological forceps device for the taking of tissue samples from a body, comprising a flexible main coil attached at its distal end to a pair of homologous cast jaws. The jaws have radially arranged teeth on their distalmost end. The jaws are opened and closed by attachment to a pair of pull wires which extend through the main coil, into a handle at its proximal end, the handle has a spool which slides about a central shaft attached to the main coil. The spool is attached to the pull wires, so that movement of the spool with respect to the central shaft, effectuates a force on the proximal ends of the levered jaws, to open and close them, appropriately.

**32 Claims, 3 Drawing Sheets**

